

WHAT IS CLAIMED IS:

Sub A 1. A method of driving an electronic device, with one frame period comprising n

sub-frame periods (SF_1, SF_2, \dots, SF_n), the n sub-frame periods each comprising address (writing) periods (Ta_1, Ta_2, \dots, Ta_n) and sustain (lights-on) periods (Ts_1, Ts_2, \dots, Ts_n)

5 wherein the address (writing) period overlaps with the sustain (lights-on) period in at least one sub-frame period of the n sub-frame periods, and

wherein, in the case where an address (writing) period (Ta_m ($1 \leq m \leq n$)) of a sub-frame period (SF_m) overlaps with an address (writing) period (Ta_{m+1}) of a sub-frame period (SF_{m+1}) a clear period (Tc_m) is provided which starts upon completion of a sustain (lights-on) period (Ts_m) of the sub-frame period (SF_m) and ends upon start of the address (writing) period (Ta_{m+1}).

10 2. A method of driving an electronic device, with one frame period comprising n sub-frame periods SF_1, SF_2, \dots, SF_n , the n sub-frame periods each comprising address (writing) periods Ta_1, Ta_2, \dots, Ta_n and sustain (lights-on) periods Ts_1, Ts_2, \dots, Ts_n ,

15 wherein the address (writing) period overlaps with the sustain (lights-on) period in at least one sub-frame period of the n sub-frame periods, and

wherein, in the case where an address (writing) period (Ta_n) of a j-th ($0 < j$) frame sub-frame period (SF_n) overlaps with an address (writing) period (Ta_1) of a ($j + 1$)-th frame sub-frame period (SF_1), a clear period (Tc_n) is provided which starts upon completion of a sustain (lights-on) period (Ts_n) of the j-th frame sub-frame period (SF_n) and ends upon start of the address (writing) period (Ta_1) of the ($j + 1$)-th frame sub-frame period SF_1 .

3. A method of driving an electronic device, with one frame period comprising n sub-frame periods SF₁, SF₂, ..., SF_n, the n sub-frame periods each comprising address (writing) periods Ta₁, Ta₂, ..., Ta_n and sustain (lights-on) periods Ts₁, Ts₂, ..., Ts_n,

5 wherein, in a certain sub-frame period SF_k (1 ≤ k ≤ n), when the length of its address (writing) period is given as t_{a_k}, the length of its sustain (lights-up) period as t_{s_k} and the length of one gate signal line selecting period as t_g (t_{a_k}, t_{s_k}, t_g > 0), and t_{a_k} > t_{s_k} is satisfied, the length of SF_k's clear period given as T_{c_k} (T_{c_k} > 0) always satisfies the following expression:

$$t_{c_k} \geq t_{a_k} - (t_{s_k} + t_g)$$

4. A method of driving an electronic device as claimed in claim 1, wherein a clear signal inputted during the clear period is provided by increasing or lowering the electric potential of a capacitor storage line by means of a signal inputted from a capacitor storage line driving circuit.

5. A method of driving an electronic device as claimed in claim 2, wherein a clear signal inputted during the clear period is provided by increasing or lowering the electric potential of a capacitor storage line by means of a signal inputted from a capacitor storage line driving circuit.

20 6. A method of driving an electronic device as claimed in claim 3, wherein a clear signal inputted during the clear period is provided by increasing or lowering the electric potential of a capacitor storage line by means of a signal inputted from a capacitor storage line driving circuit.

7. A method of driving an electronic device as claimed in claim 1, wherein an EL element does not emit light during the clear period irrespective of an image signal.

8. A method of driving an electronic device as claimed in claim 2, wherein an EL element does not emit light during the clear period irrespective of an image signal.

9. A method of driving an electronic device as claimed in claim 3, wherein an EL element does not emit light during the clear period irrespective of an image signal.

10. An electronic device comprising a source signal line side driver circuit, a gate signal line side driver circuit, a capacitor storage line driving circuit, and a pixel portion, wherein:

the pixel portion has a plurality of source signal lines, a plurality of gate signal lines, a plurality of current supply lines, a plurality of capacitor storage lines, and a plurality of pixels;

each of the plurality of pixels has a switching transistor, an EL driving transistor, a capacitor storage, and an EL element;

the switching transistor has a gate electrode electrically connected to the gate signal line; (p32, lines 15-17)

the switching transistor has a source region and a drain region one of which is electrically connected to the source signal line and the other of which is electrically connected to a gate electrode of the EL driving transistor; (p32, lines 15-17, FIG.1)

the capacitor storage has an electrode electrically connected to the capacitor storage line and has another electrode electrically connected to the gate electrode of the EL driving transistor; and (FIG.1, p33, lines 2-5)

(15)

the EL driving transistor has a source region and a drain region one of which is electrically connected to the current supply line and the other of which is electrically connected to one electrode of the EL element. ⁽¹³⁾ Fig 1!

5 11. An electronic device as claimed in claim 10, wherein the capacitor storage line is electrically connected to the capacitor storage line driving circuit so that a signal having amplitude is inputted to the capacitor storage line from the capacitor storage line driving circuit. ^{p 44-45}

Paragraph 85

12. An electronic device operated by a driving method in which:

one frame period comprises n sub-frame periods SF₁, SF₂, ..., SF_n;

the n sub-frame periods each comprises address (writing) periods Ta₁, Ta₂, ..., Ta_n and sustain (lights-on) periods Ts₁, Ts₂, ..., Ts_n;

the address (writing) period overlaps with the sustain (lights-on) period in at least one sub-frame period of the n sub-frame periods; and,

in the case where an address (writing) period Ta_m ($1 \leq m \leq n$) of a sub-frame period SF_m overlaps with an address (writing) period Ta_{m+1} of a sub-frame period SF_{m+1}, a clear period Tc_m is provided which starts upon completion of a sustain (lights-on) period Ts_m of the sub-frame period SF_m and ends upon start of the address (writing) period Ta_{m+1}.

20 13. An electronic device operated by a driving method in which:

one frame period comprises n sub-frame periods SF₁, SF₂, ..., SF_n;

the n sub-frame periods each comprises address (writing) periods Ta₁, Ta₂, ..., Ta_n and sustain (lights-on) periods Ts₁, Ts₂, ..., Ts_n;

the address (writing) period overlaps with the sustain (lights-on) period in at least one sub-frame period of the n sub-frame periods; and,

in the case where an address (writing) period Ta_n of a j-th ($0 < j$) frame sub-frame period SF_n overlaps with an address (writing) period Ta_1 of a ($j + 1$)-th frame sub-frame period SF_1 ,

5 a clear period Tc_n is provided which starts upon completion of a sustain (lights-on) period Ts_n of the j-th frame sub-frame period SF_n and ends upon start of the address (writing) period Ta_1 of the ($j + 1$)-th frame sub-frame period SF_1 .

14. An electronic device wherein:

one frame period comprises n sub-frame periods SF_1, SF_2, \dots, SF_n ;

the n sub-frame periods each comprises address (writing) periods Ta_1, Ta_2, \dots, Ta_n and sustain (lights-on) periods Ts_1, Ts_2, \dots, Ts_n ; and,

in a certain sub-frame period SF_k ($1 \leq k \leq n$), when the length of its address (writing) period is given as ta_k , the length of its sustain (lights-up) period as ts_k , and the length of one gate signal line selecting period as t_g ($ta_k, ts_k, t_g > 0$), and $ta_k > ts_k$ is satisfied, the length of SF_k 's clear period given as Tc_k ($Tc_k > 0$) always satisfies the following expression:

$$Tc_k \geq ta_k - (ts_k + t_g)$$

15. An electronic device as claimed in claim 12, wherein a clear signal inputted during

20 the clear period is provided by increasing or lowering the electric potential of a capacitor storage line by means of a signal inputted from a capacitor storage line driving circuit.

16. An electronic device as claimed in claim 13, wherein a clear signal inputted during the clear period is provided by increasing or lowering the electric potential of a capacitor storage line by means of a signal inputted from a capacitor storage line driving circuit.

5 17. An electronic device as claimed in claim 14, wherein a clear signal inputted during the clear period is provided by increasing or lowering the electric potential of a capacitor storage line by means of a signal inputted from a capacitor storage line driving circuit.

10 18. An electronic device as claimed in claim 12, wherein an EL element does not emit light during the clear period irrespective of an image signal.

15 19. An electronic device as claimed in claim 13, wherein an EL element does not emit light during the clear period irrespective of an image signal.

20 20. An electronic device as claimed in claim 14, wherein an EL element does not emit light during the clear period irrespective of an image signal.

25 21. A method of driving a electronic device according to claim 1, wherein said electronic device is a device selected from the group consisting of: an EL display, a video camera, a head-mount display, a DVD player, a personal computer, a cellular phone and an audio system for automobiles.

30 22. A method of driving a electronic device according to claim 2, wherein said electronic device is a device selected from the group consisting of: an EL display, a video camera,

a head-mount display, a DVD player, a personal computer, a cellular phone and an audio system for automobiles.

23. A method of driving a electronic device according to claim 3, wherein said
5 electronic device is a device selected from the group consisting of: an EL display, a video camera,
a head-mount display, a DVD player, a personal computer, a cellular phone and an audio system
for automobiles.

24. An electronic device according to claim 10, wherein said electronic device is a
10 device selected from the group consisting of: an EL display, a video camera, a head-mount display,
a DVD player, a personal computer, a cellular phone and an audio system for automobiles.

25. An electronic device according to claim 12, wherein said electronic device is a
device selected from the group consisting of: an EL display, a video camera, a head-mount display,
15 a DVD player, a personal computer, a cellular phone and an audio system for automobiles.

26. An electronic device according to claim 13, wherein said electronic device is a
device selected from the group consisting of: an EL display, a video camera, a head-mount display,
a DVD player, a personal computer, a cellular phone and an audio system for automobiles.

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27. An electronic device according to claim 14, wherein said electronic device is a
device selected from the group consisting of: an EL display, a video camera, a head-mount display,
a DVD player, a personal computer, a cellular phone and an audio system for automobiles.